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MONTHLY REPORT

OF

THE AGRICULTURAL DEPARTMENT.

FEBRUARY,

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MONTHLY REPORT.

WASHINGTON, D. C., *February* —, 1867.

A variety of statistics of the agriculture of the United States and Great Britain will be found in this Report. A careful study of these facts will furnish abundant food for reflection, and start many a suggestion of practical value.

The statement concerning the famous dairies of Ayrshire, in Scotland, shows an average annual yield of four hundred and twenty-five gallons of milk per cow. Hon. Zadock Pratt, of New York, reports the yield per cow in his dairy of eighty cows at five hundred and eighty-four gallons per cow in a season of eight months. The Ayrshire product of cheese, on this basis, is four hundred and twenty-nine and a quarter pounds per cow, realizing fifty dollars and sixty-two cents per cow; the butter product of Mr. Pratt is sixty dollars and sixty-six cents per cow.

The experiments in manuring, so long and systematically conducted by Mr. Lawes, show, in the comparison of yields of successive years, the fact that the last three years have been characterized by a successive decline, by nearly uniform gradations, in the wheat product. And the rate and proportion of the decline differ little from the experience of wheat-growers in this country and in France in the same period. Whether there may be cycles of varying production, and a periodicity in maximum yields that may be defined or determined, remains to be proven.

The attention of Congress is respectfully called to the resolution of the Kansas legislature, praying for the passage of some law for the protection of the western cattle-growers against the ravages of the Spanish fever. I am making efforts to obtain facts relative to this singular and fatal disease, which may result in great loss to the people of Kentucky, Missouri, Kansas, and possibly to other States, if Texas cattle shall be allowed unrestricted passage through those regions.

The tables showing the average yield per acre, and average prices of cereals and other prominent farm products, for 1866, indicate a year of average production and prosperity.

ISAAC NEWTON,
Commissioner.

PORK-PACKING IN CINCINNATI.

The packing season in Cincinnati has disappointed the feeders of hogs in the matter of prices. A very marked decrease from the previous season was early indicated. The average has been little more than half of the average of 1864–'65. The average yield of lard was less than last winter, but greater than for several previous seasons, amounting to thirty pounds per hog. It is claimed, however, that much less lard than usual has actually been made the present season, as few, if any, hogs were rendered into lard; whereas there were 2,000 or more the previous season that were rendered entire, with the exception of the hams.

The following, from the Price Current, shows the general average weight and yield of lard per hog for the past eight seasons:

	Average weight.	Yield of lard.
	Pounds.	*Pounds.*
1859–'60	189	23
1860–'61	221 1/7	28 9/16
1861–'62	224 3/4	29 5/16
1862–'63	209	25 2/3 1/3
1863–'64	188 1/2	23 1/8
1864–'65	201 1/8	24 1/5
1865–'66	238 8/31	32 3/25
1866–'67	232 2/7	30 1/2

The following shows the number of hogs packed during thirty-five years:

Years.	No.	Years.	No.
1833	85,000	1851	334,000
1834	123,000	1852	352,000
1835	162,000	1853	361,000
1836	123,000	1854	421,000
1837	103,000	1855	355,000
1838	182,000	1856	405,000
1839	190,000	1857	344,000
1840	95,000	1858	446,677
1841	160,000	1859	382,826
1842	220,000	1860	434,499
1843	250,000	1861	433,799
1844	240,000	1862	474,467
1845	196,000	1863	608,457
1846	205,000	1864	370,623
1847	250,000	1865	350,600
1848	475,000	1866	354,079
1849	410,000	1867	462,610
1850	393,000		

The following were the average prices of hogs for the last fourteen seasons:

1853–'54	$4 44 1/4	1860–'61	$5 97
1854–'55	5 00 3/4	1861–'62	3 28 2/5
1855–'56	6 04 3/4	1862–'63	4 45
1856–'57	6 23 3/4	1863–'64	7 00 1/2
1857–'58	5 16 1/2	1864–'65	14 62 1/3
1858–'59	6 58 1/3	1865–'66	11 96 5/8
1859–'60	6 21 1/3	1866–'67	7 52 1/4

NEW REFINING PROCESS FOR SORGHUM SIRUP.

Sorghum sugar-cane is now quite extensively cultivated in all the eastern, middle, and western States. Within a few years it has been quite successfully grown in Connecticut, Rhode Island, and some parts of Massachusetts. The rapidity with which this new farm enterprise has extended and developed itself is probably without a parallel in the annals of husbandry. In the short space of ten years, and in the face of many obstacles, this "sweet reed" has been introduced and established as a permanent and an important farm staple, affording annually from thirty to thirty-five million gallons of its sirup. The introduction of this plant has wrought changes amounting almost to a revolution in the dietetic economy of vast regions of the country. Families which formerly consumed half a dozen gallons of tropical molasses in a year, now use fifty to a hundred gallons of sorghum. Its use in the family supplies to a large extent the place of butter and meat, particularly with children, and it is the universal testimony of those who have observed its effect upon the health of families using it freely, that it is attended with improved average health.

Notwithstanding the extent to which sorghum is produced in the country, its consumption is confined almost wholly to the communities or districts in which it is grown. Very little finds its way into the channels of commerce and into city consumption, except that which comes through sugar refineries and reaches the general public in the form of sugar-house or golden sirup. Crude sorghum has a distinguishing flavor, which to many persons is not agreeable. This quality is easily removed by the ordinary process of refining as practiced in regular sugar refineries, but this operation involves an expensive apparatus and great skill, neither of which is practically attainable by the farmer. He is therefore under the necessity of finding a home market for his surplus product, or of selling it to refiners at much less than its real value, compared with products of the tropical cane. Within the last two years the production of sorghum has been considerably in excess of the local demand, and the sirup has been forced into the general markets of cities, particularly in the west, where, there being no definite commercial standing for the article, farmers have been forced to sell at prices not fixed by the rule of intrinsic value, but by the rule of commercial cupidity. This has been somewhat discouraging to cane-growers, and all now realize the need of some simple and practical method of so refining or improving the quality of the sirup as to secure for it a proper position or rank among other sirups and saccharine substances in the market.

Quite opportunely a very simple and inexpensive refining process has recently been discovered by Mr. Wm. Clough, of Cincinnati, editor of the Sorgo Journal, which promises to answer all the requirements of the business. This process has been exhibited in the rooms of the Agricultural Department during the last two weeks, both in refining crude sirup and in operating upon green juice. For the latter purpose a quantity of canes from the experimental grounds of the department, which had been stored all winter, and were somewhat decayed, were pressed, and the juice of these canes, after being refined by the new process and subsequently concentrated, produced a delicious table sirup. A quantity of this sirup, together with samples produced by refining crude sirups of various qualities, have been deposited in the department for public inspection.

The process of refining is quite novel and interesting. No filters of any kind are used, no expensive or intricate apparatus is required, and the expense for ingredients used in the process is a mere trifle, not exceeding one or two cents a gallon. In refining old sirup the solution is reduced to the density of 16° or 18° Beaumé. The refining agents are then added and thoroughly mixed with the juice or dilute sirup, and the liquid brought to the boiling point. At the boiling temperature a copious precipitate or coagulum appears. The fluid is

then removed from the fire and allowed to remain quiet for a few minutes, when the impurities subside, forming a dense sediment at the bottom, leaving the solution perfectly clear. The clear liquid is then drawn off and concentrated, in the ordinary way, to the appropriate density. The finished sirup has a wine-like transparency and is entirely devoid of the peculiar odor and crude vegetable quality of sorghum. Its taste is mild and agreeable, rather more pleasant to many than that of sugar-house sirup.

What is to be the effect of this process upon the great question of making sugar from sorghum? will naturally be asked by all who are interested in cane culture. The sugar phase of the sorghum subject is the most interesting, and, in the end, must become the most important. It is apparent that much of the gummy or mucilaginous matter contained in the sirup is removed by this process, and as these obstruct granulation, and also prevent the sugar from readily separating from the uncrystallizable residuum, it would appear that the operation must favor the production of sugar. Mr. Clough, the inventor or discoverer of the process, states that sugar has formed in almost all cases in sirups which he had refined, though without the use of the ordinary means to favor granulation. For making sugar, however, the refining operation should be applied to the juice in the first stages. With good healthy cane of the better varieties, the juice treated by this process and promptly concentrated, it is believed that sorghum sugar can be readily and systematically produced.

THE SPANISH FEVER.

The department is endeavoring to collect information relative to this destructive distemper. Facts and well-considered opinions are desired from all available sources. The following resolutions have been adopted by the legislature of Kansas:

"Whereas there annually prevails a contagious disease among the cattle of this and adjoining States, commonly known as 'Spanish fever,' destroying large numbers, thereby seriously affecting the interests of the productive industry; and whereas such disease is propagated by the introduction of cattle from the State of Texas and Indian territory south of Kansas; and whereas the want of a scientific investigation of the said disease has rendered void any effort to arrest its ravages: Therefore,

"*Resolved by the house of representatives of the State of Kansas,* (the senate concurring,) That our senators and representatives in the Congress of the United States are instructed to urge and support an appropriation by said Congress to enable the Department of Agriculture to make the said scientific investigation, and that a copy of this resolution be forwarded to each of our senators and representatives in Congress, and also to the Commissioner of Agriculture."

The people of southern Texas, conscious of their danger, and distrustful of the efficacy of government action for their defence, are taking the matter in their hands and organizing vigilance committees to arrest and drive back the Texan cattle movement. Such a meeting was recently held, composed of farmers from McDowell, Humboldt, Clark, and Lyon creeks, and a large committee appointed and organized.

The attention of the Agricultural Committees of Congress is respectfully called to this resolution and similar suggestions from private individuals.

EXPERIMENTS IN MANURING.

In view of the fact that France obtains fifty per cent. more wheat per acre than the United States, and England more than a hundred per cent. greater crops, it is time that facts concerning fertilizers and improved modes of culture should be more carefully noted and better heeded.

Mr. J. B. Lawes, who has been making wheat experiments in England for twenty-three successive years upon the same land, reports the result in the year just closed, with comparisons with three preceding years, and the average for fourteen years, as follows:

BUSHELS OF WHEAT PER ACRE.

How manured each year.	Harvests.				Average for 14 years—1852 to '65.
	1863.	1864.	1865.	1866.	
Unmanured	17¼	16	13¼	12⅕	15½
Farm-yard manure	44	40	37⅕	32⅝	35¾
Artificial manure	53⅝	45⅜	40¼	29⅞	37¼
Artificial manure	55⅝	49⅕	43⅜	32⅕	39¼
Artificial manure	55½	51¼	44	32½	36½

WEIGHT PER BUSHEL OF WHEAT.

Unmanured	62.7	62.0	60.1	61.3	57.3
Farm-yard manure	63.1	62.5	61.6	61.7	59.8
Artificial manure	62.6	63.1	61.0	61.0	59.0
Artificial manure	62.3	63.5	61.1	60.1	58.5
Artificial manure	62.1	62.6	61.5	60.6	57.8

Mr. Lawes says: "From the progressive decline in the produce from year to year since 1863, it will, perhaps, be supposed that the result is in great measure connected with a gradually declining condition of the land, and therefore not mainly the effect and the indication of variation in the productive character of the seasons. That the results are not due to the changing condition of the land, but to the changing character of the seasons is, however, evident from the fact that several times during the last fourteen years the crops on these same plots have been as bad as, or worse than, in the present season"

The following statement shows the result in the most unfavorable seasons, the worst being in 1853:

	1852.	1853.	1860.	1866.
Unmanured	13⅜	5⅞	12⅘	12⅕
Farm-yard manure	27⅜	19⅓	32⅜	3[illegible]
Artificial manure	26[illegible]	2[illegible]	27¾	2[illegible]
Artificial manure	27½	23½	31⅜	32⅓

"The variation in amount of produce from year to year may, therefore, safely be taken as almost wholly referable to season. The quality of the grain, as shown by the weight per bushel, is seen to be considerably above the average of the last fourteen years.

"Turning from these experimental results to those obtained on my farm under ordinary management, I may mention that three separate fields gave this year 40, 42 and 46 bushels per acre, respectively, against 38, 48, 48 and 51 bushels obtained in the four last years, thus indicating a considerable decline in amount of produce. On the other hand, the weight per bushel is somewhat higher in each of the three cases this year than in either of the four last years.

"Upon the whole, I conclude that the wheat crop of 1866 will prove to be decidedly below an average, and, judging from the produce of both my experimental and ordinary crops, and the relation which has been observed between them and the crops of the country generally for many years past, I should estimate the deficiency at not less than 10 or 12 per cent."

AYRSHIRE DAIRIES.

From the "Transactions of the Highland Society" we glean some interesting statistics in relation to the dairy products of Ayrshire county, England. The number of cows in milk is estimated at 40,000. Allowing an average yield of 425 gallons of milk to each cow annually, and 1.01 pound of cheese to a gallon of milk, we have, after deducting for indrink, 429¼ pounds of cheese to each cow; which, at $13 70 per hundred-weight of 112 pounds, yields $50 62½ per cow, or $2,025,000 for the 40,000 estimated for the county. To this product of the milk add the price of 39,000 newly dropped calves, at $1 75 per head, or $68,250 for the whole, and we have $2,093,250 as the total value of the annual product from the milch cows of the county. The amount from the milk is apportioned as follows: sweet or full-milk cheese, $1,600,000; half-and-half and skim-milk cheese, $125,000; butter, buttermilk, sweet milk, skim-milk, $200,000; milk given to the calves reared, $100,000. To the above yield from the milk and calves, $2,093,250, add proceeds from, say, 9,000 grass-fed cattle sold and exported at an average of $42 50 per head, exclusive of the $1 75 per head formerly charged as calves, $382,500; gross fattening of sheep, &c., $50,000; value of the whey for pigs, $90,000; total, $2,615,750. From which deduct value of cabbage acreage, $40,000; mangold acreage, $82,500; vetches acreage, $10,000; meal, &c. given to cows, $75,000; the fodder is compensated for by the manure; total net proceeds, $2,408,250. Dividing this sum by the 135,000 acres in rotation pasture, we have $17 50 as the amount realized per acre of grass land in the county.

CALIFORNIA PRODUCTS.

The following upon the cultivation of the palms, agaves, acacias, olives, mulberries, and almonds in southern California is furnished by Alexander S. Taylor:

"The coast counties of south California are peculiarly adapted to the growth and cultivation of the valuable plants named in the above caption. Different species of *acacias*, as the *mesquites*, and of the *agaves*, as the *A. Americana*, or century plant, as well as a species of palm, with a sweet edible fruit, like the date palm of Barbary, are indigenous to the soil, and are very common in the Colorado mountains and slopes of the extensive county of San Diego. The agaves yield the pulque of the Mexicans, and are valuable for fencing and the manufacture of fibre for rope, coarse bagging, paper-making, &c. Every species of acacia (mesquite, or algorobah, or carobs) grows with very little trouble in this south coast country, and requires very small expense in the cultivation. The finer qualities of the silk mulberry, as proved in thousands of experiments, are found to grow with great luxuriance in these sections, and is very hardy. The silk-worm is now being extensively raised in Santa Barbara, Los Angeles, and San José, and the quality of silk produced is highly approved,

as the caterpillars are exceedingly healthy. Mr. Wilson Flint, of Sacramento, is now cultivating thousands of the mulberry at that place, and establishing another plantation of a million of trees at Los Angeles. Mr. L. Prevost, of San José, the pioneer of silk culture on this coast, has also a large plantation of the mulberry at that town, where an extensive silk factory is now being established.

"The date palm of the Barbary coast has been grown at San Buenaventura and San Diego missions since 1790, and there is no doubt that, with government encouragement by grants of land, the entire plain of the Colorado valley could be cultivated with that invaluable tree, as it succeeds in all parts of Sonora and Lower California, being introduced at the old Jesuit missions since before the year 1700. This tree is not only one of the most valuable in commerce from its fruit, (every tree in full bearing producing about $3 worth of fruit in Morocco,) but it is one of the most useful known for hundreds of household, shipping, and cultivating purposes. The fruit alone sustains man and beast without any other nutriment. Its cultivation, with that of the acacias, would in a quarter of a century redeem the Colorado country of its fearful aridity and desolation, and be one of the greatest of blessings to the Territory of Arizona.

"The olive was introduced into Los Angeles and San Diego before 1780, and is now cultivated as far up as San José city and in many places in the Sacramento and San Joaquin valleys. It is a very hardy tree from the sapling to its eightieth year, and succeeds as well as in Italy, Palestine, or Greece. The olives produced at the old missions of San Diego, San Gabriel, and San Buenaventura are not excelled in size or flavor by the best of Seville or Florence; and in the four coast counties mentioned there are not less than 15,000 trees, which are now over half a century old; many of them are eighty years old. The olive oil used in Catholic church service from 1800 to 1840, and also in family use, was all manufactured from the gardens of the old missions and those of private individuals. The olives cured at San Diego were said formerly to be the largest and best flavored in the world, even by old Italians, French, and Spaniards. There are probably now in the State not less than 200,600 olive trees, from one year old up to eighty, all of which were planted from the gardens of San Diego and Los Angeles, being introduced there from the Jesuit missions near Loretto and La Paz, as heretofore noted, *ante* 1780.

"The almond also has been grown in the mission gardens since about 1800, but never cultivated for profit until about 1854, since which year they have been extensively cultivated in the four counties named, from the almonds bought in the stores and also imported from southern Europe. It grows best in the strip of coast near the sea, between San Diego and Santa Barbara, where frosts are never severe nor winds strong enough to destroy the buds and flowers in early spring, a fault to which the tree is greatly exposed in the country drained by the Bay of San Francisco. In Santa Barbara the almond succeeds to perfection, is very hardy and easy to cultivate, and produces abundantly, there being six-year-old trees in the town which have yielded thirty pounds of the finest soft-shelled almonds. By the assessor's returns of 1865 there were 725 trees, and in 1866 these had increased to 4,860 trees, and it is very likely it will in a few years become a valuable addition to the industrial interests of California."

THE CHEMICAL LABORATORY.

Inconvenience having been experienced by persons forwarding samples for analysis which are not selected with care or in quantity sufficient, it is requested that the following instructions may be complied with when practicable:

Soils.—For partial analysis of a soil, four ounces by weight will suffice; but for a complete examination, not less than two pounds are required. The samples should represent in texture the whole field.

Limestones, clays, and ironstones.—If well marked and uniform samples, two to four ounces will be sufficient.

Manures, artificial.—Of those which are commercial, four ounces; made by the farmer, when uniform, four ounces; if not uniform, one pound. In the latter case the sender should select two or three handfuls from different portions, well mixed, and one pound separated, to be forwarded.

Waters.—Not less than two quarts should be sent to ascertain its saline contiution; for a complete analysis two to three gallons are required; if it be a mitneral water it may be necessary to ascertain the gases present, in which case the bottles or jars should be filled while under water, with their mouths turned downward, and then stoppered in that position so tightly that the gases will not escape subsequently.

Specimens sent should be distinctly labelled and accompanied by a letter specifying the particular analysis required and the object in view, or the nature of the information needed, by observing which more satisfaction in the reply will be secured.

DECAY OF CHESTNUT TREES IN NORTH CAROLINA.

A correspondent writing from Wilkesboro', North Carolina, speaks of a peculiar fatality which has prevailed for the past three or four years among the chestnut trees in that locality. He says: "Nearly half the trees are dead in all the region of country extending from the top of the Brushy mountain, twenty miles east, which forms a strip running across the State from Patrick county, Virginia, to the Greenville district, South Carolina, say twenty miles broad and one hundred and fifty long, crossing the State from northeast to southwest. Their destruction seems to be caused by an insect (probably a worm) at the root, and the work is complete, for the tree 'dies all over;' no sprouting from the stump or other evidences of lingering life, as is common to this tree when the axe is applied to it, for then its death gives rise to a numerous and thrifty crop of sprouts that soon fill the space in the forest left vacant by taking the parent stock."

This disease may be caused by small larvæ between the bark and wood. If specimens of the bark and insects are sent to the department we can tell more about it.

AGRICULTURAL STATISTICS OF GREAT BRITAIN.

The following is a summary of the detailed statement recently issued by the British Board of Trade, giving the aggregate of population, area, acreage of crops and grass, percentage of corn crops, and total and proportionate number of cattle and sheep in England, Wales, and Scotland:

Abstract of Table No. 4.

	England.	Wales.	Scotland.	Total.
Population	18,954,444	1,111,780	3,062,294	23,128,518
Area, acres	32,590,397	4,734,486	19,639,377	56,964,260
Acreage in all crops—bare, fallow, and grass	22,261,833	2,284,674	4,158,360	28,704,867
Acreage grain crops	7,400,170	521,074	1,366,540	9,287,784
Acreage green crops	2,750,008	139,265	663,257	3,552,530
Acreage clover and grass in rotation	2,296,087	256,722	1,141,415	3,694,224
Acreage pasture and grass not in rotation	8,998,027	1,257,721	893,066	11,148,814
Percentage of grain crops to total acreage of all crops	33.2	22.8	32.9	32.4
Total number cattle	3,420,044	546,966	968,637	4,935,647
Proportionate number cattle to every 100 acres in crops	15.4	24.0	23.3	17.2
Total number sheep, March, 1866	15,124,541	1,668,663	5,255,077	22,048,281
Proportionate number sheep to every 100 acres in all crops	68.0	73.0	126.4	76.8

Abstract of Table No. 5.

	England.	Wales.	Scotland.	Total.
Wheat	3,161,431	113,862	110,101	3,385,394
Barley, or bere	1,877,387	146,323	213,619	2,237,329
Oats	1,503,990	251,893	1,004,040	2,759,923
Rye	50,570	2,452	7,055	60,077
Beans	492,586	3,534	28,537	524,657
Peas	314,206	3,010	3,188	320,404
Total under corn crops	7,400,170	521,074	1,366,540	9,287,784
Potatoes	311,151	44,266	143,426	498,843
Turnips and swedes	1,600,706	62,442	478,990	2,142,138
Mangold	254,081	3,864	852	258,797
Carrots	15,598	295	916	16,809
Cabbage, kohl rabi, and rape	159,539	1,329	5,075	165,943
Vetches, lucern, and other crops, (except clover or grass)	408,933	27,069	33,998	470,000
Total under green crops	2,750,008	139,265	663,257	3,552,530
Hops	56,562	14	2	56,578
Bare, fallow, or under-cropped arable land	760,979	109,878	94,080	964,937
Clover and other grasses in rotation	2,295,087	256,722	1,141,415	3,694,224
Permanent pasture meadow or grass	8,998,027	1,257,721	893,066	11,148,814
Total acreage	22,261,833	2,284,674	4,158,360	28,704,867

A NEW VARIETY OF SUMMER PEAR.

[Translated from the French.]

For many years past nurserymen and the writers on pomology have brought to our notice many new varieties of summer pears of a quality and flavor hitherto without parallel, but they have lacked one very important quality—*size*.

The French Imperial Journal of Horticulture has a somewhat extended notice, drawn up at the request of the committee on tree culture, of a new summer pear, from which we have condensed the following description.

It was originated by M. Ruillé de Beauchamp, of Pont Saint Martin, near Nantes, who has named it the *Poire de l'Assomption*, from the time of its ripening—that being from the first to the last of August, according to climate, place, and culture. M. de Beauchamp raised it from the seed in 1855, but as the seed was sown promiscuously, cannot tell from what variety it came. It bore its first fruit in 1863. It is vigorous, fruits readily and abundantly; resembles the *Colmar d'Aremburg* in wood, but in shape, the *Bon Chretien William;* the branches, however, are stouter than those of the latter, and somewhat swollen at the ends; the leaves more deeply serrated. This striking resemblance between the trees is also seen in the fruit; while as yet it has not acquired a definite shape, the *Poire de l'Assomption* sometimes resembles the *Bon Chretien William*, sometimes the *Colmar d'Aremburg*, and occasionally it even counterfeits the *Besi de Chaumontel*, but under what ever form it assumes, it always retains its magnificent size. The specimens submitted to the committee varied in weight from eight to ten ounces.

It would be easily mistaken for either of the above varieties, were it not for the difference in the time of maturing and the quality of the pulp. It is very

juicy, the flesh medium in texture, whitish, melting, though firm, in some specimens granulated at the core, the perfume strong and very agreeable. It is a great luxury to find, in the heat of August, a pear of such size and such agreeable and refreshing quality.

Besides being remarkable for early maturity and great size, it has another excellent quality, it does not grow mellow rapidly, seeming to await the leisure of the consumer.

SULPHUR FOR BLIGHT OR MILDEW ON PEACHES AND ROSES.

[Translated from the French.]

At the September sitting of the French Imperial Society of Horticulture M. Lepère called the attention of the members to some very fine samples of the variety of peach known as the *Galande Bellegarde*. He said that variety of peach had been almost abandoned for several years by the cultivators of Montreuil because it was subject to blight or mildew, for which no remedy was found. He had continued to cultivate, and with great advantage, from the time when, by use of sulphur, he had been able to free the tree from the parasite which injured it.

M. Andy asked if the blight on roses could be overcome by the same remedy. M. Margotten replied that sulphur was a perfect cure for this disease in roses, but we must apply it as soon as the parasite appears, before it becomes firmly established. It is better that the shoots should be only about six or eight inches in length when the application is made.

This blight or mildew often appears just as the roses are ready to flower again, but a new application will remedy the evil. The remedy should be applied when the day is clear and warm, for the sulphurous acid, resulting from the slow combustion of the sulphur under the action of the sun's rays, quickly kills the parasite ; whereas if the application be soon followed by rain the sulphur is washed away, and it becomes necessary to apply it again. M. Parnot confirmed, from his experience, the efficacy of the above remedy, as did M. Verdier, the latter, however, insisting that the remedy should be applied when the leaves of the shrub were very small.

EXTRACTS FROM CORRESPONDENCE.

DESTRUCTION OF INSECTS.

A correspondent writing from New York communicates the following recipe for the eradication of insects, &c., with the assurance that where it is properly applied these pests will, in a great measure, disappear from the orchards, graperies, &c. He wrote this direction for preparation and application: "*Preparation.*—Saw a hogshead in two; put twenty to thirty pounds of sulphate of iron into one half, and fill up with chamber lye; (water will answer, but urine is best.) When the liquid becomes black it is fit for use." "*Application.*—The preparation must be applied to the trunks and branches of trees, and poured round the collars, which will kill and keep off all worms infesting these parts, and add vitality to the trees. It is also claimed that trees, grain, vines, &c., on being steeped (the roots) with the liquid a few hours before planting, will escape all worms which infest the roots, trunks, and branches, and the growth will be much accelerated." The writer further states that "sulphate of iron placed in the crotches of the tree and branches is of great benefit, and when applied early to the branches, trunks, and roots of trees, will avert the falling off of the fruit."

SEED EXPERIMENTS.

Jefferson county, N. Y.—The following are the results of experiments in the cultivation of seeds received from the department last season. From twenty-four ounces of "Page's Prolific" barley the yield was twenty-six pounds; twelve ounces of "Brewer's Delight" barley, thirteen pounds; twelve ounces Chevalier barley, twelve pounds—fifty-one pounds of barley from about three pounds of seed. There is not much difference in the looks or quality of the three varieties named, but all are good acquisitions, and I shall sow every kernel raised.

Superior, Wisconsin.—In August, 1865, I received about one and a half pound of white Mediterranean winter wheat, which was sown on land among standing corn, at the rate of one and a half bushel to the acre. On the 15th of August I harvested the same, the product being at the rate of forty bushels per acre of good quality wheat. I think this variety well adapted to our climate, and would be a profitable crop here.

A NEW YORK DAIRY.

Delaware county, N. Y.—This county is emphatically a butter county, and I wish a choice dairy could have been provided entire for the Paris Exposition, but it is now too late, as our dairymen have generally sold their butter. In a sworn statement presented at the annual meeting of the Delaware County Agricultural Society, Mr. Irvine has shown that from eleven cows he made and sold over 2,300 pounds of butter, besides supplying his family with butter and milk. As far as an average has been made the product of butter varies little from 150 pounds per cow for the past year. In 1864 the average was only a little over 100 pounds. The increase is due to keeping less stock and feeding better, and in increased economy in preventing loss.

EASTERN KENTUCKY.

Booneville, Ky.—The natural resources of this section of country have never been developed. A small portion of the lands are under cultivation, being very mountainous, and most of that which is brought under the plough is depleted by a wasteful system of culture, and either left to broom-sage or undergrowth, or cropped still at great expenditure of labor for small returns. A small portion of river bottom lands are too rich to be exhausted by surface culture, and is still very productive. Even that which has been abandoned is not exhausted, the culture received never penetrating the soil deep enough for that. The almost inexhaustible mineral resources of this county are comparatively unknown. This whole region, back to the Cumberland range, and even further, abounds in the richest minerals, consisting of iron, coal, (both stone and cannel,) gold, silver, lead, and an immense quantity of lithographic stone, reported to be the purest in the world, and said to exist nowhere else in America. All these valuables remain unused for want of means of transportation to market. * * * * There is more improvement in hogs than in any other stock in the county, and yet of less value, from the fact that disease is prevalent among swine here. The "hog cholera" has killed nearly one-half of last year's raising, and no remedy has yet been found. It is most prevalent during the fall and winter season.

PORCELAIN CLAYS.

Aiken, S. C.—A correspondent writes: "The kaolins of this county resemble those from China, and from Cornwall, in the high proportion of alumina and the low proportion of water, and is considered the best known in America for the manufacture of porcelain. The quality of these clays, abundant water facilities

for transportation, the immense forests affording cheap fuel, and the remarkable salubrity of the climate, afford a combination of advantages rarely to be found, and could they be properly brought to the attention of practical men would result in much advantage to this section."

BOTTS IN HORSES—HOG CHOLERA.

Berkeley county, W. Va.—"I give you herewith a recipe for the botts in horses: To tell whether it is an attack of colic or botts, take some fine salt and blow a mouthful into each nostril; if it is colic, water will begin in a few moments to drop from the nostrils; if not, it is the botts. In the latter case drench with a pint of melted hog's lard, and in a few hours repeat the dose. * * * Four fatal cases of hog cholera have been reported to me since my last report. * * * From reliable data I make the following estimates of hogs slaughtered the past season in this county, exclusive of those killed in towns and villages: hogs slaughtered, 6,816; weight, 1,348,344 pounds; or an average of 197.8 pounds per hog. Average price of pork, $8 50 per 100 pounds; giving a total value of $114,609 24."

A GARDEN OF ACCLIMATION.

Little Valley, N. Y.—"I notice in your annual report of 1865 that you recommend the establishment of a government garden of acclimation, from whence the llama, Cashmere goat, and improved breeds of domestic fowls might be distributed to different parts of the country. I highly approve this suggestion, and would name several native animals which I think should be among the first to claim attention, viz: the American elk or great wapili deer, the beaver, the Hudson Bay sable, the mink, and otter. For fifteen years I have been experimenting to ascertain if some of our native wild animals could not be domesticated and become valuable additions to the wealth of the country. I commenced with the elk, and, although attended with some difficulty, for the want of experience in the commencement, the result has been a success, having bred and raised forty elk on my farm. Four years since I commenced experimenting with the mink, and, as with the elk, I found that it required some experience or skill to manage the wild ones taken from the woods until they should rear their first young, but with the second generation the difficulties were overcome, and it proves comparatively easy to raise them in large numbers. The great demand for these furs has nearly annihilated the race. My success with the mink, and the information obtained in relation to the beaver, Hudson Bay sable, and otter, gives me great confidence in the ultimate success with these fur bearing animals."

ELDER SUGAR.

Dixon, Ill.—"Last year I had some very fine asters, and a long, slim, black bug destroyed them by eating the flower. In the morning I would kill them, and before evening another swarm would literally cover them. I saved a few seeds, but do not like to plant them, for fear I might be propagating the bug."

[The insect injuring the asters is probably the *lytta*, a species of the *cantharidæ*, and which is very injurious to the aster.]

"I would say, for the benefit of the Agricultural Department, we have made sugar from the box-elder trees. The sap is very sweet, granulates as readily as the maple and makes a whiter sugar."

Table showing the average yield per acre and the average prices of the principal crops of the United States for 1866, *and comparative amount of winter and spring wheat, in tenths.*

States.	WHEAT.				RYE.		BARLEY.	
	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.	How many tenths of the usual crop are winter wheat?	How many tenths of the usual crop are spring wheat?	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.
Maine	12.7	$2 86	1	9	17.	$1 39	24	$1 02
New Hampshire	16.2	2 58	2	8	16.	1 39	25	1 19
Vermont	20.2	2 67	1	9	18.5	1 51	29	1 23
Massachusetts	14.9	2 78	3.8	6.2	17.2	1 38	22	1 27
Rhode Island	15	2 80	3	7	17.6	1 44	28.3	1 15
Connecticut	17.3	2 83	5.7	4.3	13.	1 50	23.5	1 27
New York	15.2	2 67	6	4	16.3	1 21	23.5	1 06
New Jersey	13.5	2 93	10	.....	14.	1 26	20	1 00
Pennsylvania	11	2 67	8	2	13.6	1 17	22.3	1 09
Delaware	8	3 00	10	.....	9.5	1 33	.....	.....
Maryland	9.7	2 94	9	1	11.	1 16	25	1 00
Virginia	6.7	2 85	10	.....	9.	1 06	7.5	95
North Carolina	5.8	2 72	8	2	6.7	1 70	.....	.....
South Carolina	4.7	3 19	9	1	5.	1 98	.....	.....
Georgia	4	2 72	9	1	4.8	1 34	8.2	1 84
Florida	.....	.....	.....	.....	.....	.....	.....	.....
Alabama	5.7	2 34	10	.....	6.5	2 12	9	1 87
Mississippi	5	2 53	7	3	7.6	2 03	14	2 08
Louisiana	6	2 50	10	.....	5.	2 50	.....	.....
Texas	12	1 45	8.6	1.4	17.	1 08	23	97
Arkansas	6.5	2 06	8.5	1.5	10.	1 67	12.5	1 50
Tennessee	5.3	2 21	9.4	.6	8.2	1 18	23.2	1 39
West Virginia	6	2 67	9.4	.6	11.3	1 11	17.7	1 19
Kentucky	6.5	2 30	9.8	.2	9.3	1 12	13.5	1 37
Missouri	16.5	2 01	8.7	1.3	19.8	97	25.5	1 03
Illinois	13	1 93	4.8	5.2	15.6	79	25	68
Indiana	5.9	2 41	9.6	.4	12.2	1 03	19	1 07
Ohio	4.2	2 52	9	1	10.8	1 09	19.5	1 14
Michigan	13.8	2 55	8.4	1.6	15.5	1 06	25	1 02
Wisconsin	14.5	1 67	2	8	16.6	88	25.2	90
Minnesota	15.6	1 36	5	9.5	20.	97	27	83
Iowa	16	1 42	1.4	8.6	19.3	69	25.4	67
Kansas	21.4	1 91	6.5	3.5	26.4	96	29	94
Nebraska	26	1 23	.5	9.5	26.	92	35.3	84
Colorado	25.6	2 60	1.5	8.5	20.	1 97	30.6	1 75
Utah	22.7	1 41	2.3	7.7	20.	1 25	25	1 33

Table showing the average yield per acre and the average prices of the principal crops of the United States for 1866—Continued.

State.	OATS.		CORN.		BUCKWHEAT.		POTATOES.	
	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.
Maine	27.7	$0 69	33	$1 35	31	$0 89.5	156	$0 51
New Hampshire	29.2	68	32	1 37.5	22	1 08	132	49
Vermont	40.3	63	33.3	1 41	30	1 00	148	43
Massachusetts	29.2	76	34	1 34	20.4	1 02	139	69
Rhode Island	35	73	27.3	1 42	18	1 50	105	80
Connecticut	32	71	33	1 26	15	98	109	81
New York	33	61	27	1 16	26.2	92	107	69
New Jersey	34.5	61	43.3	1 03	18	1 15	77	86
Pennsylvania	33	50	34.4	91	21.4	96	99.3	76
Delaware	15	55	16	87	27.5	1 37	75	70
Maryland	26.6	55	30	93	25	1 08	70	80
Virginia	20	45	20	73	16.5	85	83	66
North Carolina	14.3	71	12	1 12	16	1 32	81	71
South Carolina	8.3	1 11	5.9	1 58	.....	.....	80	1 03
Georgia	10.7	1 00	6.2	1 52	.....	.....	62	77
Florida	22.5	1 25	13.2	1 50	.....	.....	187	85
Alabama	11.4	1 05	9	1 51	.....	.....	107	79
Mississippi	10.4	1 09	14.5	1 57	.....	.....	76	64
Louisiana	.....	.....	17	1 23	.....	.....	85	1 21
Texas	25.5	86	26	94	.....	.....	131	70
Arkansas	13	94	24	1 14	15	2 00	107	81
Tennessee	20	51	22	77	15	1 17	72	72
West Virginia	24.7	45	38.8	64	15.6	90	78.2	72
Kentucky	21.8	48	31.8	49	17.5	1 17	88	67
Missouri	30.7	44	30.8	58	21	93	92.3	79
Illinois	34	33	31.6	43	16.8	1 07	86.5	64
Indiana	29.3	35	36.5	44	19	1 02	79.3	57
Ohio	32.2	40	38	54	18.5	1 10	78	77
Michigan	34.7	47	32	82	20	98	110	56
Wisconsin	33.3	54	28.3	82	16	86	91	64
Minnesota	35.8	72	24	1 11	20	1 03	134	72
Iowa	37.8	39	31.5	44	16	1 01	72	89
Kansas	39	47	34.2	63	28	1 54	81	1 59
Nebraska	47.2	46	29.3	68	26	1 85	49	1 75
Colorado	41	1 53	30	2 19	17	3 63	175	1 40
Utah	35	92	28	1 17	.....	.....	163	67

Table showing the average yield per acre and the average prices of the principal crops of the United States for 1866, *continued; also, the comparative amount of winter grain sown.*

States.	Leaf tobacco.		Hay.		Sorghum molasses.		Winter wheat.		Winter rye.		Winter barley.	
	Average yield per acre in 1866, stated in pounds.	Average price per pound on the first day of January, 1867.	Average yield per acre in 1866, stated in tons.	Average price per ton on the first day of January, 1867.	Average yield per acre in 1866, stated in gallons.	Average price per gallon on the first day of January, 1867.	Average amount sown last fall, compared with 1865.	Average condition of same on the first day of January, 1867.	Average amount sown last fall, compared with 1865.	Average condition of same on the first day of January, 1867.	Average amount sown last fall, compared with 1865.	Average condition of same on the first day of January, 1867.
Maine	.....	.....	.8	$19 28	.....	.....	10.5	10.7	10	10.3	.....	.....
New Hampshire	.....	.....	.83	17 88	.....	.....	10	10	10	10	.....	.....
Vermont	.....	.....	1.	15 61	.....	.....	10	11	11	11	.....	.....
Massachusetts	.....	20	1.	28 39	.....	.....	10.2	10	10.2	10.2	.....	.....
Rhode Island	.....	.....	1.	31 66	.....	.....	.....	.....	10	10.6	.....	.....
Connecticut	1,200	19.5	1.4	25 60	93	1.02	11.3	11.3	10.4	11	.....	.....
New York	718	13.5	1.2	16 18	.....	.....	10	10.3	9.7	10	8.5	10
New Jersey	.....	.....	1.26	25 00	70	.83	10.3	11	10.3	10.5	.....	.....
Pennsylvania	800	17	1.2	16 14	125	.83	10	11	10.5	10.5	10	10
Delaware	.....	.....	1.1	17 50	100	.70	12.5	9	10	10	.....	.....
Maryland	693	10.3	1.3	20 27	81	.85	10.2	11.2	10	10.6	.....	.....
Virginia	718	13.7	1.3	14 28	79.5	.56	13	13	10.3	11.6	10	20
North Carolina	683	20.5	1.3	13 00	62.4	.64	11	10	11	10.3	10	10
South Carolina	.....	.....	1.	22 00	19.4	.82	9	9.6	10	9.2	.....	.....
Georgia	625	32	.9	23 62	67	.73	11.3	9.5	.....	.....	9.8	9.4
Florida	.....	.....	3.	20 62	.....	.81	.....	.....	.....	.....	.....	.....
Alabama	332	31	1.	18 63	56	.82	10.5	10.5	10.3	10.5	11.5	11.3
Mississippi	250	36.6	.87	27 50	50.7	.87	7	10	8.7	10	11.5	10
Louisiana	400	60	.....	30 00	.....	.....	.....	.....	.....	.....	.....	.....
Texas	829	21	1.5	13 60	81	.87	9	8.7	9.7	9	9.5	9.5
Arkansas	650	32	1.3	26 43	63	1.04	9	9.5	10.5	10	8	10
Tennessee	712	21	1.4	18 63	85.5	.67	11	11.4	9	11	11	10
West Virginia	900	17.6	1.17	12 22	124	.70	8.7	12	9.6	10.7	10.5	10
Kentucky	755	9.5	1.37	12 80	98.8	.65	10.3	11.5	10	10.8	10.4	11.5
Missouri	877	11	1.9	9 91	88	.70	13.2	10.2	8.1	9.4	10.7	8.7
Illinois	666	9.3	1.47	9 27	97.6	.63	9	10.5	11.2	10.6	9.1	9.8
Indiana	837	8.4	1.23	9 44	109	.55	8.3	10	9.6	9.8	9.6	10
Ohio	860	6.7	1.3	11 00	132	.67	7.8	10.7	10	10.4	8.4	10.3
Michigan	1,200	17.3	1.3	13 75	120	.87	10.3	10	10	10.3	10	10.2
Wisconsin	.....	25	1.3	12 25	122	.85	8.8	9.9	9.5	9.8	11.1	10.8
Minnesota	725	18	1.8	7 00	73.7	1.03	10	9.2	9.7	9.2	10	10
Iowa	988	32.5	1.9	6 20	98	.82	9.1	10.1	9.5	10.4	10	10
Kansas	550	29	2.	7 18	115	.84	7.3	8.4	9	9	8.4	8
Nebraska	430	24	1.5	6 43	118	1.04	10.7	9.7	11.7	10.7	.....	.....
Colorado	.....	.....	1.5	19 00	.....	.....	7.3	10.7	10.5	11	.....	.....
Utah	.....	.....	1.58	17 50	123	2.17	10	10.5	.....	.....	.....	.....

Table showing the average yield per acre in 1866, *and the prices of the principal farm products of California and Oregon on the* 1st *day of January,* 1867.

Principal farm products.		California.		Oregon.	
		Average yield per acre in 1866.	Average price January 1, 1867.	Average yield per acre in 1866.	Average price January 1, 1867.
Wheat	bushels	29.3	$1 27	26	$0 68
Rye	do	38.7	1 19	35	68
Barley	do	39.5	83	37	62
Oats	do	50	67	42	40
Corn	do	45	1 25	35	1 35
Potatoes	do	172	90	150	58
Hay	tons	1.65	12 75	1⅞	17 50

The returns from California are not sufficient to insure perfect accuracy. They are given as the actual averages of returns from the counties reported.

WOOL CONSUMPTION.

It is with pleasure that space is accorded to Hon. David A. Wells, special commissioner of internal revenue, for an explanation relative to his estimate of an average annual consumption of six hundred millions of pounds of fleece wool or its substitutes. The error, it will be seen, is charged upon the manufacturers, and founded upon their estimate of 2,252,545 pounds weekly consumption of scoured wool during the exceptional year of 1864, when mills were running night and day—a basis which could not properly be taken for an average for other years. It is evident, however, that there is an error lying in this manufacturer's statement, and probably found in the word "scoured," as all but about twenty-eight per cent. was returned as domestic wool, requiring an amount nearly equal to the two clips of 1863 and 1864, and nearly two years' importation of foreign wool. *Besides, the returns of fleece wool from manufacturers to this department, for nearly the same period, almost exactly coincided in quantity with the aggregate of wool put down as "scoured" in the manufacturer's table.*

A portion of this explanation is devoted to showing that four pounds of wool are required to make one of cloth—a fact, as to foreign wool, that has never been disputed.

It is to be regretted, however, that Mr. Wells does not revise his estimate, and reduce in accordance with such revision his calculated statement of the cost of protection. The letter is as follows:

WASHINGTON, *March* 4, 1867.

SIR: In the monthly report of the Agricultural Department for January, 1867, a charge is brought against the Special Commissioner of the Revenue of having made a blunder "worse than the crime of intentional misrepresentation,"

in greatly over-estimating, in his recent report to Congress, the present average annual consumption of wool and woollens. A charge so grave as this, and appearing in an official publication, would seem to require something in the way of a reply or defence, and I accordingly submit the following statements:

As a basis for a proposed change in the tariff on wool and woollens, the authorized representatives of the wool-growers and woollen manufacturers submitted to Congress in May, 1866, through the medium of the Revenue Commission, a series of reports, which purported to contain the most full and reliable information respecting the condition and prospects of the great industries in question. These reports may be found in the bound volume of the Report of the Revenue Commission, (pages 347 to 480, inclusive,) and from the high character and intelligence of the names attached to them, must be accepted by the public, as they have been by the Special Commissioner of the Revenue, as of unquestionable authority.

By referring to these reports, pages 423 and 424, it will be seen that the number of sets of woollen machinery (a set forming the unit of calculation) *actually employed* in the United States on the 25th of October, 1865, as reported to the Woollen Manufacturers' Association, was 4,100. The committee further state that all the sets of machinery in the country were not reported, and they estimate the actual number to be considerably larger, viz., 5,000.

They moreover show, in an elaborate table based on careful inquiry and correspondence, that the actual consumption of scoured wool, on the 4,100 sets of machinery reported, averaged 2,252,545 pounds per week, or 117,132,340 pounds per annum. Supposing the 900 sets not reported to consume scoured wool in an equal ratio with the 4,100 sets actually reported, we hence have, according to the statement of the best informed woollen manufacturers of the United States, an annual consumption of scoured wool, on the machinery then in existence, of 142,844,317 pounds. Making all proper allowance for shrinkage, it will, therefore, be seen that the Special Commissioner would have been warranted in assuming a larger figure than 117,000,000 pounds as the annual product in cloth, of the existing woollen machinery of the United States *in prosperous times*. This last limitation the Commissioner was careful to express, for it is not to be supposed that the people will construct expensive machinery without some reasonable anticipation that its employment will be found expedient and advantageous.

Now it is submitted that the Special Commissioner of the Revenue was warranted in assuming the above statement (the correctness of which was fully vouched for by the appended signatures of the leading wool-growers and woollen manufacturers of the country) as the basis of his estimates; and that if a blunder has been committed in over-estimating, "the crime of intentional misrepresentation" certainly cannot be laid to *his* account.

As regards the estimate of the weight of the foreign woollens imported into the United States during 1866, he can only say that it was made for the Special Commissioner by experts, and by averaging the actual weight of the different varieties of fabrics, and that its correctness is susceptible of the most ample proof.

Again, it is further charged that the Commissioner has fallen into another grievous error in assuming that four pounds of wool are required in all cases to make one pound of cloth, and that the tax on wool aggregates to the consumer in this proportion; the specific charge being that all wool does not shrink in this proportion, but only certain varieties.

In reply to this he would say that he does not find in the officially published estimates by the wool-growers and woollen-manufacturers, as the basis for the calculation of compensating duties on woollens, any limitation of this shrinkage. They apply it most unmistakably to all wools, and use the following language—(See Report of Revenue Commission, page 447:)

"*To determine the amount of reimbursing specific duties which the manufacturer should receive as an equivalent for the proposed increased duty on wool,*

we must, in the first place, apply the rule adopted in the present and preceding tariff bills, and multiply the proposed duty on wool (eleven and a half cents) by four, the number of pounds of wool to a pound of finished cloth."

It will be observed that this rule is made absolute and without qualification. No matter whether the wool of which the imported cloth is made shrinks in the process of manufacture four pounds or two pounds, the duty is increased upon one principle, and aggregates the cost of all imported woollens alike. Whether the increased duty imposed on foreign wool and woollens increases to the same extent the price of the domestic product, is a question which experience will answer. That it has done so in the case of other staple articles, like teas, sugars, coffee, and spices, any one can satisfy himself by comparing prices before and after the passage of the several tariff acts increasing duties; and that it will so operate in all other instances where consumption is not greatly interrupted and where a large surplus has not accumulated on the market, cannot be doubted. The question as to the ratio of shrinkage of the various wools is therefore entirely irrelevant, inasmuch as if four cents is imposed on woollens for every one cent imposed on wool, irrespective of shrinkage, then prices will be enhanced in this proportion. If the shrinkage on foreign wool is not, as the wool-growers' and manufacturers assume, in the ratio of four of wool to one of cloth, then the protection asked for on woollens is more than is equable and necessary; but the tax once imposed, the enhancement of prices takes place in the manner indicated.

I am yours, most respectfully,

DAVID A. WELLS,
United States Special Commissioner of Revenue.

Hon. ISAAC NEWTON,
Commissioner of Agriculture.

METEOROLOGY.

NOTE.—Observers will please write all matters intended specially for the Department of Agriculture (as requests for seeds, notes of crops, &c.) on a separate paper, with name, post office, and State legibly signed, to secure attention.

Reports should be forwarded early each month, so as to allow time for attention at the Smithsonian Institution *after* being used in the Department of Agriculture.

JANUARY, 1867.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and the amount of rain, (in inches and tenths,) for January, 1867, at the following places, as given by the observers named. The daily observations were made at 7 o'clock a. m. and 2 and 9 p. m.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain or melted snow.
MAINE.				°		°	°	*In.*
Steuben	Washington	J. D. Parker	22	36	31	—12	17.0	3.75
Williamsburg	Piscataquis	E. & H. W. Pitman.	22	32	20, 30	—16	9.63	1.90
West Waterville	Kennebec	B. F. Wilbur	22	37	20	—14	13.8	3.70
Gardiner	do	R. H. Gardiner	22	33	20	—17	13.1	2.62
Lisbon	Androscoggin	Asa P. Moore	.....	.....	20	—23	.....	1.80
Webster	do	Almon Robinson	22	35	20	—19	13.2	.....
Standish	Cumberland	John P. Moulton	22, 25	36	20, 31	—12	16.6	1.77
Cornish	York	Silas West	22	34	20	—10	14.1	2.50
Cornishville	do	G. W. Guptill	22	34	30	— 8	14.9	3.20
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	23, 26	28	16	—20	8.7	1.45
North Barnstead	Belknap	C. H. Pitman	25	40	20	— 7	17.6	1.85
Concord	Merrimac	John T. Wheeler	22	36	20, 31	—13	16.0	1.50
laremont	Sullivan	Arthur Chase	6	31	31	—15	12.6	1.85
Do	do	S. O. Mead	27	36	20	—18	12.5	.....
Portsmouth	Rockingham	John Hatch	22	40	31	— 8	21.3	2.97
VERMONT.								
Lunenburg	Essex	H. A. Cutting	23	30	18	—20	9.3	2.05
Craftsbury	Orleans	James A. Paddock	6	27	16	—15	9.6	1.75
Randolph	Orange	Charles S. Paine	6	32	16	—22	9.9	1.63
Middlebury	Addison	H. A. Sheldon	5, 6	32	16	—21	11.5	1.85
Brandon	Rutland	H. Buckland	6	34	16	—18	13.1	1.12
Barnet	Caledonia	B. F. Eaton, M. D	22	30	19, 31	—20	7.7	1.00
Wilmington	Windham	Rev. J. B. Perry	25	31	16	—16	12.5	.....
MASSACHUSETTS.								
Kingston	Plymouth	G. S. Newcomb	5	40	20	— 5	22.5	2.90

Table showing the range of the thermometer, &c., for January—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain or melted snow.
MASSACHUSETTS—C'd.								
				°		°	°	*In.*
Topsfield	Essex	S. A. Merriam	25	46	30	2	24.6	5.07
Lawrence	do	John Fallon	5	33	16	— 1	18.4	3.96
Newbury	do	John H. Caldwell	5	41	31	— 6	18.2	.....
Milton	Norfolk	Rev. A. K. Teele	25	39	20	— 7	19.1	3.60
North Billerica	Middlesex	Rev. E. Nason	5	42	30	—18	16.7	.....
New Bedford	Bristol	Samuel Rodman	21	41	19	— 2	22.4	2.72
Do	do	Edward T. Tucker	26	45	20	—10	21.9	2.99
Worcester	Worcester	Joseph Draper, M.D.	5	34	19, 20	0	19.1	5.16
Mendon	do	J. G. Metcalf, M. D.	5, 26	30	20	—13	16.3	3.00
Lunenburg	do	G. A. Cunningham	5	38	20	— 5	17.0	2.95
Amherst	Hampshire	Prof. E. S. Snell	24	34	16	— 5	18.3	1.34
Richmond	Berkshire	Wm. Bacon	25	32	16	— 8	15.5	5.25
Williams College	do	Prof. A. Hopkins	5, 6	30	16	—16	14.1	1.65
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall	5	40	30	0	22.7	1.97
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	5	33	16, 19, 20	— 2	19.9	1.26
Columbia	Tolland	Wm. H. Yeomans	23	36	20	—10	19.7	3.10
Middletown	Middlesex	Prof. J. & A. Johnston	24	37	20	— 9	19.6	2.41
Colebrook	Litchfield	Charlotte Rockwell	25, 26	32	30	— 9	14.0	.....
Groton	New London	Rev. E. Dewhurst	5	39	20	— 1	23.2	3.27
NEW YORK.								
Moriches	Suffolk	E. A. Smith & daugh's	5	48	20	—14	25.5	2.44
South Hartford	Washington	G. M. Ingalsbe	6	34	16	—22	14.6	1.41
Germantown	Columbia	Rev. S. W. Roe	10	40	16	— 6	21.2	1.90
Garrison's	Putnam	Thomas B. Arden	26	38	16	0	18.4	2.35
Throg's Neck	Westchester	Miss E. Morris	5, 26	38	16	4	22.7	.....
Deaf & Dumb Inst.	New York	Prof. O. W. Morris	26	37	29	4	23.2	2.54
Columbia College	do	Prof. Chas. A. Joy	26	37	18, 30	8	22.6	2.34
St. Xavier's College	do	Rev. Jno. M. Aubier	26	37	30	9	24.0	.....
Flatbush	Kings	Eli T. Mack	5	38	16, 20	5	23.0	0.70
Newburgh	Orange	Jas. H. Gardiner	24	42	16	— 6	21.1	2.13
Gouverneur	St. Lawrence	Cyrus H. Russell	24	32	30	—25	11.5	1.21
North Hammond	do	C. A. Wooster	26	31	16	—20	11.2	3.36
South Trenton	Oneida	Storrs Barrows	21	30	16	—18	13.9	2.35
Oneida	Madison	S. Spooner, M. D.	10	33	15, 16	—14	16.8	2.65
Cazenovia	do	Prof. Wm. Soule	4	34	15	—15	15.7	.....
Houseville	Lewis	Walter D. Yale	5, 25	34	30	—16	12.3	1.53
Depauville	Jefferson	Henry Haas	5	34	30	—13	14.3	2.08
Theresa	do	S. O. Gregory	31	32	15	—17	.....	2.00
Oswego	Oswego	Wm. S. Malcolm	5, 10	32	16	— 4	19.1	4.26
Palermo	do	E. B. Bartlett	5	31	15	—15	14.6	4.70
Baldwinsville	Onondaga	John Bowman	5	33	16	— 9	17.4	1.85
Skaneateles	do	W. M. Beauchamp	1	39	15	— 4	18.8	7.10
Nichols	Tioga	Robert Howell	5	36	16	— 5	18.7	.....
Geneva	Ontario	Rev. W. D. Wilson	5	36	15	5	19.3	1.30
Rochester	Monroe	M. M. Mathews, M.D.	4, 5	35	14, 19	8	20.9	2.68
Rochester Univ.	do	Prof. C. Dewey	31	37	15	1	18.8	2.68

Table showing the range of the thermometer, &c., for January—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain or melted snow.
NEW YORK—Con'd.				°		°	°	*In.*
Little Genesee	Allegany	Daniel Edwards	31	44	30	—17	17.4	1.90
Friendship	....do	George W. Fries	31	45	15	— 6	16.0	.....
Buffalo	Erie	Wm. Ives	5	37	19	2	20.3	2.42
NEW JERSEY.								
Paterson	Passaic	Wm. Brooks	1, 6, 24, 26	36	30	— 1	21.4	1.86
Newark	Essex	W. A. Whitehead	26	39	20	1	22.7	1.61
New Brunswick	Middlesex	Geo. H. Cook	6	36	16, 20, 30	2	21.1	0.64
Trenton	Mercer	E. R. Cook	6	40	30	9	26.7	1.55
Burlington	Burlington	John C. Deacon	5, 6	40	16, 20, 30	4	21.9	1.50
Moorestown	....do	Thos. J. Beans	5	44	16	1	22.2	1.13
Mount Holly	....do	M. J. Rhees, M.D.	6	41	16	4	23.8	1.60
Seaville	Cape May	Barker Cole	10	40	29	6	26.6	2.53
Dover	Morris	Howard Shriver	26	39	20	— 5	21.9	1.90
Readington	Somerset	John Fleming	24, 26	38	20	0	21.7	2.08
Haddonfield	Camden	Samuel Wood	6	37	16	5	21.7	2.10
Greenwich	Cumberland	R. C. Sheppard	31	38	16	— 1	23.8	1.74
PENNSYLVANIA.								
Nyces	Pike	John Grathwohl	4	43	20	—16	15.4	1.70
Fallsington	Bucks	Ebenezer Hance	26	43	16	1	23.7	1.70
Philadelphia	Philadelphia	Pf. J. A. Kirkpatrick	5	41	30	11	26.3	1.93
Germantown	....do	Thomas Meehan	6, 12, 31	38	30	4	23.8	3.60
Horsham	Montgomery	Anna Spencer	6	39	30	3	21.7	1.10
Dyberry	Wayne	Theodore Day	4	43	16	—17	15.6	1.80
North Whitehall	Lehigh	Edward Kohler	6	38	16	— 3	21.2	1.43
Parkesville	Chester	F. Darlington	5, 26	34	16	— 6	21.6	1.32
Reading	Berks	J. Heyl Raser	26	39	3 20, 30	7	24.4	.....
Ephrata	Lancaster	W. H. Spera	5, 26	36	16	— 2	22.1	1.72
Silver Spring	....do	H. G. Buckhart	5	38	3	0	23.0	1.33
Mount Joy	....do	J. R. Hoffer	24	45	16	3	25.9	1.10
Harrisburg	Dauphin	John Heisely, M. D.	5, 6	36	20, 30	10	23.7	2.09
Lewisburg	Union	Prof. C. S. James	6	34	3, 16	—13	17.8	1.61
Tioga	Tioga	E. T. Bentley	5	40	30	—18	17.8	1.05
Pennsville	Clearfield	Elisha Fenton	4	32	30	—14	16.1	2.73
Connellsville	Fayette	John Taylor	31	55	30	—10	19.3	.....
New Castle	Lawrence	E. M. McConnell	31	43	30	—16	20.2	.....
Canonsburg	Washington	Rev. W. Smith, D. D.	31	47	30	—20	18.2	0.97
DELAWARE.								
Delaware City	New Castle	J. M. Vanhekle	5, 6, 9, 26, 31	38	16	2	24.3	.....
MARYLAND.								
Woodlawn	Cecil	Jas. O. McCormick	3	46	30	3	24.2	1.00
Catonsville	Baltimore	Grape & Ranlett	26	39	30	5	23.8	1.25
Annapolis	Anne Arundel	Wm. R. Goodman	9	46	3	2	30.1	1.32
St. Inigoes	St. Mary's	Rev. J. Stephenson	5, 31	43	30	10	27.4	1.12
Emmittsburg	Frederick	Eli Smith	24	42	30	— 2	22.3	1.53
VIRGINIA.								
Lynchburg	Bedford	Chas. T. Meriwether	31	44	19	16	32.	0.80

Table showing the range of the thermometer, &c., for January—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp	Mean temp.	Rain or melted snow.
WEST VIRGINIA.				°		°	°	*In.*
Romney	Hampshire	W. H. McDowell	4	56	17, 24, 30	0	21.7	.....
Cabell Court-house	Cabell	C. L. Roffe	31	58	19	5	27.6	1.50
Grafton	Taylor	Dr. W. H. Sharp	31	52	30	—10	24.4	2.40
Weston	Lewis	.....	31	55	30	— 8	24.4	.....
NORTH CAROLINA.								
Goldsboro'	Wayne	E. W. Adams, A. M.	31	61	18	15	37.0	5.02
Oxford	Granville	J. H. Mills	31	50	18	15	30.8	2.69
Raleigh	Wake	Rev. F. P. Brewer	31	58	5	12	31.6	.....
Albemarle	Stanley	F. J. Kron	14	58	19	10	33.1	3.33
SOUTH CAROLINA.								
Aiken	Barnwell	Rev. Jno. H. Cornish	14	73	18	21	40.8	2.36
GEORGIA.								
Atlanta	Fulton	Frederick Deckner	14	68	18	10	35.9	1.70
ALABAMA.								
Moulton	Lawrence	Thomas M. Peters	31	69	18	18	38.4	0.26
Fish River	Baldwin	W. J. Van Kirk	12, 23	70	11	30	50.9	0.90
FLORIDA.								
Fernandina	Nassau	H. M. Corey	13	76	19, 27	28	48.3	.....
Gordon	Alachua	H. B. Scott	13	73	10	28	51.0	.....
Jacksonville	Duval	A. S. Baldwin, M. D.	13	79	18, 19	32	52.1	4.62
TEXAS.								
Chapel Hill	Washington	W. H. Gannt, M. D.	13, 22, 23	78	1, 2	20	53.7	0.75
Austin	Travis	J. Van Nostrand	24	78	2, 3	17	51.1	0.00
MISSISSIPPI.								
Fayette	Jefferson	Rev. T. H. Cleland	13, 14	74	2	22	45.4	.....
Natchez	Adams	William McCary	14	80	2	22	49.2	1.97
Kingston	....do	J. Edwards Smith	13, 14	77	2	26	50.0	0.75
ARKANSAS.								
Fort Smith	Sebastian	Rev. Frs. Springer	31	71	3	3	37.2	.....
TENNESSEE.								
Tusculum College	Green	S. S. & W. S. Doak	25	56	2, 17, 18	10	30.1	.....
Clarksville	Montgomery	Pf. Wm. M. Stewart	31	62	18	4	31.7	1.61
KENTUCKY.								
Louisville	Jefferson	Mrs. L. Young	31	57	22	2	26.6	2.93
Chilesburg	Fayette	Dr. S. Martin	31	55	18	6	26.6	3.19
OHIO.								
New Lisbon	Columbiana	J. F. Benner	31	47	30	—18	20.3	3.59
East Fairfield	....do	S. B. McMillan	31	41	30	— 8	18.8	2.00
Steubenville	Jefferson	Joseph B. Doyle	31	45	30	— 8	22.0	.....
Milnersville	Guernsey	Rev. D. Thompson	31	46	30	—20	18.3	2.10
Cleveland	Cayuhoga	T. A. Smurr, M. D.	31	46	30	— 4	20.2	.....
East Cleveland	....do	Mr. and Mrs. G. A. Hyde.	31	49	30	— 5	20.7	2.34
Wooster	Wayne	Martin Winger	25	38	30	—24	18.3	.....

Table showing the range of the thermometer, &c., for January—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain or melted snow.
OHIO—Cont'd.				°		°	°	*In.*
Gallipolis	Gallia	A. P. Rodgers	31	56	30	0	23.6	1.92
Kelley's Island	Erie	Geo. C. Huntington	31	44	30	— 2	20.7	1.46
Norwalk	Huron	Rev. A. Newton	31	48	30	—12	19.8	1.64
Westerville	Franklin	Prof. H.A.Thompson	31	49	30	—17	21.0	1.60
Kingston	Ross	Prof. John Haywood	31	49	30	—12	20.4	2.12
Toledo	Lucas	J. B. Trembly, M.D.	31	46	19, 30	— 6	19.6	1.50
Marion	Marion	H. A. True, M. D.	31	42	30	—17	17.2	2.35
Kenton	Hardin	C. H. Smith, M. D.	31	55	29	5	31.4	3.50
Urbana University	Champaign	M. G. Williams	31	46	30	—15	17.9	1.60
Hillsborough	Highland	J. McD. Mathews	31	50	17	— 4	20.7	1.94
Ripley	Brown	Dr. G. Bambach	31	59	19, 30	4	25.6	2.52
Bethel	Clermont	George W. Crane	31	51	30	— 4	20.0	2.75
Cincinnati	Hamilton	George W. Harper	31	53	17	— 1	23.5	1.41
Do	....do	R. C. Phillips	31	50	17	4	27.3	1.27
College Hill	....do	John W. Hammitt	31	52	17	— 5	22.6	2.50
Farm School	....do	L. B. Tuckerman	31	54	17	— 2	22.2	2.90
Painesville	Lake	E. J. Ferriss	31	44	30	3	19.8	4.40
La Fayette	Allen	Samuel Knoble	31	49	30	—14	20.2	4.60
MICHIGAN.								
Monroe City	Monroe	F. & E. Whelpley	31	48	30	— 8	21.1	2.50
State Agricult'l Col.	Ingham	Prof. R. C. Kedzie	31	46	30	—15	17.6	1.68
Litchfield	Hillsdale	R. Bullard	31	44	12	—10	16.3	1.13
Grand Rapids	Kent	E. S. Holmes, D.D.S.	31	42	12	—12	14.9	2.54
Kalamazoo	Kalamazoo	Milton Chase, M. D.	6	38	2	4	21.9	.....
Northport	Leelenaw	Rev. Geo. N. Smith	4, 31	32	19	— 4	19.5	.....
Holland	Ottawa	L. H. Streng	31	43	15	— 4	22.7	3.90
Ontonagon	Ontonagon	Edwin Ellis, M. D.	3	32	29	—10	13.8	2.00
Homestead	Benzie	George E. Steele	31	37	19	— 8	19.4	.....
INDIANA.								
Richmond	Wayne	John Valentine	31	44	30	—13	17.4	2.53
Vevay	Switzerland	Chas. G. Boerner	31	57	29, 30	0	24.7	6.18
Muncie	Delaware	G. W.H.Kemper, M.D.	31	47	30	—11	19.3	2.45
Spiceland	Henry	William Dawson	31	47	17	—11	19.7	2.50
Columbia City	Whitley	Dr. F. & Miss McCoy	31	49	30	—16	19.3	1.00
Indianapolis	Marion	Mrs. Z. Butterfield, A. M.	31	50	29	—10	21.6	.....
Rensselaer	Jasper	J. H. Loughridge	31	43	17	—16	16.1	3.30
Merom	Sullivan	Thomas Holmes	31	48	18	— 5	21.9	2.80
New Harmony	Posey	John Chappellsmith.	31	55	22	— 2	26.3	2.59
ILLINOIS.								
Chicago	Cook	J. G. Langguth, jr.	31	42	17	—18	20.3	1.92
Riley	McHenry	E. Babcock	31	38	29	—28	12.9	2.50
Golconda	Pope	W. V. Eldredge	16, 31	61	23	— 8	27.2	1.90
Aurora	Kane	A. Spaulding	31	41	17	—18	14.8	2.45
Sandwich	DeKalb	N. E. Ballou, M. D.	31	43	29	—20	14.6	2.20
Ottawa	La Salle	Mrs. E. H. Merwin	31	44	29	—10	23.2	1.28
Winnebago	Winnebago	J. W. & Miss Tolman	31	41	17	—22	12.9	2.86
Magnolia	Putnam	Henry K. Smith	31	50	17	—16	16.7	3.00
Rochelle	Ogle	Daniel Carey	31	44	29	—21	15.9	.....
Wyanet	Bureau	E. S. & Miss Phelps	31	40	29	—17	17.3	1 48

Table showing the range of the thermometer, &c., for January—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean. temp.	Rain or melted snow.
ILLINOIS—Cont'd.				°		°	°	*In.*
Tiskilwa	Bureau	Verry Aldrich	31	45	17, 29	—12	19.6	1.10
Elmira	Stark	O. A. Blanchard	31	46	17	—14	18.3	0.75
Peoria	Peoria	Frederick Brendel	31	45	29	—10	19.6	1.36
Springfield	Sangamon	G. M. Brinkerhoff	6	46	17, 28	— 4	19.8	.....
Loami	do	Timothy Dudley	31	52	17	— 9	20.1	2.70
Waterloo	Monroe	H. Künster	6	54	18	— 2	25.4	.....
Galesburg	Knox	Pf. W. Livingston	31	48	17	—10	16.7	0.45
Manchester	Scott	Dr. J. & C. W. Grant	31	56	28	— 4	20.9	1.60
Mount Sterling	Brown	Rev. A. Duncan	31	62	17	— 6	21.3	1.45
Andalusia	Rock Island	E. H. Bowman, M. D.	31	48	21	1	20.5	.....
Augusta	Hancock	S. B. Mead, M. D.	31	54	17	— 6	20.7	1.85
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Lüps	31	35	17	—15	17.4	1.65
Plymouth	Sheboygan	G. Moeller	31	35	17	—20	14.5	2.70
Milwaukee	Milwaukee	I. A. Lapham, LL.D	5, 31	42	17	—16	17.5	2.61
Do	do	Carl Winkler, M. D.	31	39	17	—14	18.8	2.05
Delavan	Walworth	Leveus Eddy	31	40	17, 29	—23	13.6	1.75
Waupacca	Waupacca	H. C. Mead	3	35	17	—18	18.2	2.40
Embarrass	do	E. Everett Breed	4, 20	28	17	—18	12.3	2.39
Rocky Run	Columbia	W. W. Curtis	31	37	17, 29	—18	16.5	2.00
Beloit	Rock	H. D. Porter	31	37	29	—19	14.2	2.67
Baraboo	Sauk	M. C. Waite	31	39	29	—15	18.9	5.21
Bayfield	Bayfield	Andrew Tate	3, 12, 31	30	29	—12	14.3	.....
MINNESOTA.								
Afton	Washington	Mrs. and Dr. B. F. Babcock.	3	34	29	—25	8.0	.....
St. Paul	Ramsey	Rev. A. B. Paterson.	3	31	17, 29	—27	8.1	0.97
Do	do	Jno. W. Heimstreet	3	39	17, 29	—22	9.6	1.20
Minneapolis	Hennepin	Wm. Cheney	3	38	29	—32	8.3	1.66
Sibley	Sibley	C.E. and C.W. Woodbury.	3	37	17	—31	8.1	0.85
New Ulm	Brown	Charles Roos	3	40	17	—22	10.5	0.84
IOWA.								
Clinton	Clinton	J.P.Farnsworth, M.D	31	40	29	—20	17.9	2.50
Lyons	do	A. T. Hudson	7, 31	36	29	—24	15.6	1.25
Davenport	Scott	Sydney Smith	31	42	29	—15	15.0	0.25
Dubuque	Dubuque	Asa Horr, M. D.	31	42	29	—20	15.4	2.63
Muscatine	Muscatine	J. P. Walton	31	47	29	—14	16.0	0.75
Monticello	Jones	M. M. Moulton	7, 31	40	29	—22	17.8	1.25
Fort Madison	Lee	D. McCready	31	50	29	—10	18.9	0.90
Guttenburg	Clayton	Jas. P. Dickerson	31	40	29	—30	11.4	1.30
Ceres	do	J. M. Hagensick	31	40	17	—20	14.4	.....
Mount Vernon	Linn	Prof. A. Collins	31	44	29	—20	14.8	.....
Iowa City	Johnson	Prof. T. S. Parvin	31	45	29	—18	17.9	1.26
Independence	Buchanan	Mrs. D. B. Wheaton	31	40	29	—26	9.6	1.60
Do	do	D. S. Deering	31	40	29	—20	14.2	1.20
Waterloo	Black Hawk	T. Steed	4, 31	40	29	—16	14.0	.....
Iowa Falls	Hardin	N. Townsend	4	36	17	—18	13.3	1.40
Des Moines	Polk	Rev. J. A. Nash	3	46	28	—11	15.1	1.55
Algona	Kossuth	Philip Dorweiler	3	37	17	- 22	8.2	1.70

Table showing the range of the thermometer, &c., for January—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain or melted snow.
IOWA—Continued.				°		°	°	*In.*
Fontanelle	Adair	A. F. Bryant	31	38	27	—10	14.0	1.65
Harris Grove	Harrison	Jacob F. Stern	31	39	27	—10	15.5	2.70
Fort Dodge	Webster	C. N. Jorgensen	31	36	17	—16	11.0	.....
MISSOURI.								
St. Louis	St. Louis	G. Engelmann, M.D.	31	58	18, 28	5	25.6	2.29
St. Louis University	....do	Rev. F. H. Stuntebeck	31	59	17, 18	5	26.3	2.02
Allenton	....do	A. Fendler	31	61	2	7	22.0	2.66
Union	Franklin	Miss Belle Moore	31	61	2, 21, 22	0	25.4	1.45
Edinburg	Grundy	J. E. Vertrees, A. M.	31	55	27	— 7	17.3	.....
Harrisonville	Cass	John Christian	31	62	1, 2	— 6	22.9	1.88
KANSAS.								
Leavenworth	Leavenworth	J. Stayman, M. D.	31	56	1	—10	20.1	1.93
Olatha	Johnson	W. Beckwith	31	60	1	— 8	21.4	.....
Atchison	Atchison	Dr. H. B. and Miss Horn.	31	48	1, 27	— 6	20.7	1.90
State Agr. College	Riley	Prof. B. F. Mudge	15	47	27	—12	22.5	0.63
Council Grove	Morris.	A. Woodworth, M. D.	15	48	27	—12	24.0	0.70
LeRoy	Coffey	J. G. Shoemaker	31	67	2	— 7	23.9	1.40
Burlingame	Shawnee	J. H. Stubbs	12	56	27	— 8	.....	0.50
NEBRASKA.								
Elkhorn	Washington	John S. Bowen	31	36	27	—10	14.6	2.28
Bellevue	Sarpy	Rev. Wm. Hamilton.	31	40	1	— 2	18.5	1.80
Glendale	Cass	Dr. A. L. and Miss Child.	31	37	27	—10	14.5	1.84

NOTES OF THE WEATHER—JANUARY, 1867.

FROM THE SMITHSONIAN INSTITUTION.

This month was characterized by its steady low temperature and the number and severity of snow-storms.

Gardiner, Maine.—The mean temperature of the month was 4.77 degrees below the average of thirty-one years, and the amount of rain and melted snow 83 hundredths of an inch less than the average for twenty-nine years. There was sleighing and the river was frozen every day during the month.

Standish, Maine.—January 17.—Roads completely blocked up; drifts from one to twenty rods wide, and from one to eight feet deep. It took some districts two days to break out their roads. 31.—The month has been very dry; snow softened in only three days in the roads; the ground is frozen but a little in the woods.

Cornish, Maine.—Mean temperature of the month 2.15 degrees lower than the average of January for the last thirty-five years.

Stratford, N. H.—January 31.—There was only fourteen and a half inches of snow during the month; one foot deep in the woods now, not quite enough for lumbering purposes.

North Barnstead, N. H.—The month of January was remarkably severe. The snow-storm commencing in the night of the 16th blocked the roads up so as to be impassable, and before travel could be resumed the storm of the 20th came. The daily mail was delayed from the 18th until the 25th.

Barnet, Vermont.—There was much less snow in January than usual, (only ten inches,) and the weather being very cold, many cellars froze that never froze before.

Craftsbury, Vermont.—This has been the coldest January since that of 1857. Snow fell on thirteen days, but in small quantities, five inches on the 26th being the greatest, and the whole amount eighteen inches.

New Bedford, Mass.—The harbor north of the bridge has been frozen over much of the month in the most rapid current, and the part south of the bridge has been unusually encumbered with ice. The outer anchorage has not been much frozen, though there was sometimes much floating ice. The snow-storm of the 17th was the most severe for many years. For about a week the railroad to Boston was obstructed, which had never occurred before for so long a time.

Kingston, Mass.—January 17.—A great storm of wind and snow; the heaviest fall of snow for ten years; fifteen inches.

Milton, Mass.—January 17.—Snow-storm commenced at 3½ o'clock a. m.; wind moderate, northeast. Between 8 and 9 a. m. wind increased greatly, and the snow came with great violence. It raged until 6 p. m. and ceased about 11 p. m., drifting and blocking up all roads and railroads, and bringing everything to a stand for about two days. Depth of snow on level, twenty inches.

North Billerica, Mass.—January 17.—Hardest snow-storm since January 17, 1857, when the "Tedasco" was wrecked at Swampscott. 21st, another great snow-storm; railroads blocked up.

Lunenburg, Mass.—This January was the coldest since January, 1857.

Pomfret, Conn.—There was an unusual amount of low barometer this month; sudden changes with great range. The cold was not extreme, but the mean temperature was 3°.7 below the average of a number of years. A large amount of snow fell, rendering the roads impassable. There has been no storm here like that of the 17th since January 18, 1857.

North Hammond, N. Y.—January has passed without its accustomed thaw; not a day was warm enough during the month to thaw on the eaves of buildings

Garrison's, N. Y.—The mean temperature of the month was lower than that of any January since 1857, when it was 15°. No rain fell during the month, and brooks and springs continue very low.

Depauville, N. Y.—January 10.—Foot-crossing on the river St. Lawrence, but not very safe. 18th, ice on the St. Lawrence safe for teams to cross. 21.—No snow after the 13th till the 20th at 9 p. m., when a storm began and continued till in the night of the 21st. Ten inches of snow fell, and the roads were blocked by the drifts.

Nichols, N. Y.—The Susquehanna river closed so as to cross with teams between the 12th and 15th, for the first time this winter. Snow two and a half feet deep in the woods at the end of the month.

New York, N. Y.—The ground was covered with snow the whole month, and sleighing was good, particularly from the 13th to the last day. Two heavy snow-storms, one in the night from the 16th to the 17th, and the other from the 20th to the 21st, made riding in several streets impossible for many days. The ice in the East river formed a bridge between New York and Brooklyn twice on the 21st, and as many as five thousand persons crossed the river on the ice. The fall of snow during the month amounted to about two and a half feet.

Geneva, N. Y.—Sleighing was good, and the amount of snow greater than it has been in the fore part of winter before in the last fifteen years, the period over which the records of the observer extend.

Rochester, N. Y.—Thirty-two inches of snow fell during the month, and did not melt in the least until about noon of the 31st, when a thaw commenced. Notwithstanding the steady cold, there was no extremely low temperature, the mercury not falling to zero, according to the record of Dr. Mathews, and only once by Dr. Dewey's, which was at 10½ p. m. on the 15th, when it was one degree below zero.

Little Genesee, N. Y.—January 31.—Until this afternoon there has been no thaw during the month, nor a drop of rain. There was one day that the snow on steep south roofs melted a trifle, but not on the roads. The snow this morning in the woods, where not drifted, was about two feet deep.

Skaneateles, N. Y.—January 1.—Lake Skaneateles free of ice. 2d, lake frozen to near Mile Point. 4th, lake frozen, making good skating three-fourths of a mile south. 31.—Snow fell on twenty-three days during the month; depth of all seventy-one inches.

Trenton, N. J.—January 17.—Very heavy snow-storm; about four inches of snow fell, drifting in places eight feet high. It has been about nine years since there was such a snow-storm here.

Dover, N. J.—January 31.—The Morris and Essex canal has been closed by ice since early in December.

Dyberry, Penn.—January 31.—Eighteen inches of snow fell during the month, blockading the roads more than at any time for the past ten years. In the woods it is about two feet deep, but many spots in fields are bare.

Reading, Penn.—January was remarkable for the regularity of its temperature, there being no thaw and no extreme cold. Drifting snows impeded very much the travel; the aggregate amount was about seventeen inches; there was scarcely any rain.

Lewisburg, Penn.—This was the coldest January since 1857.

New Castle, Penn.—The weather has been unusually severe since the 10th of December. About three feet of snow has fallen; roads in many places are impassable as late as the 31st of January, compelling travellers to pass for miles through the fields.

Emmittsburg, Maryland.—Five inches of snow fell on the 13th; one inch and a half on the 15th and 16th; eight inches on the 20th and 21st; and three-quarters of an inch on the 31st.

St. Mary's, Maryland. During the latter part of January the ice on St. Mary s river opposite this place was strong enough to bear crossing on foot, which has not been practicable before since 1856.

Grafton, West Virginia.—Snow fell on fifteen days; aggregate depth twenty-four inches.

Attaway Hill, N. C.—This station is opposite the mouth of Uwharee river, which flows into the Yadkin, and both uniting take the name of Pedee. January 3.—Six inches of snow, hail, and sleet fell to-day. 7th, on mill-ponds ice four inches thick; snow not yet melted, except on southern slopes. 8th.—A quarter of an inch of snow to-day. 15th, snow all disappeared. 17th.—Some drift-ice this morning in the Yadkin. No snow, except on the 3d and 8th; rain on the 20th, and on several other days.

Raleigh, N. C.—On the 29th of December there was a fall of snow, and from that time until the 8th of January there was more or less snow or ice on the ground. On the morning of the 3d of January there was a very heavy sleet, the ice being from one to two inches thick on the limbs of the trees. The only fall of snow during the month was on the 8th, from 10½ a. m. to 1 p. m., but it was very light and soon disappeared.

Gowdysville, S. C.—January 1.—Ground covered with snow an inch and a half deep. 3d.—From 7 a. m. to 9 p. m. sleet and snow fell one inch deep; distant thunder in the southeast. 10th, a few flakes of snow. 14th, snow disappeared. 19th, a few flakes of snow at 4 p. m. 20th, at 9 a. m. a shower of snow fell for fifteen minutes; very large flakes. 31st.—There was frost, snow, or ice every day during the month, which is remarkable here. Old men say they do not remember so long a continuance of cold weather. The amount of rain and melted snow was very small.

Atlanta, Georgia.—The only snow mentioned on the register for January was a fall of three inches on the 20th.

Jacksonville, Georgia.—There was a larger amount of cloudy weather than is usual in January in this climate. There was thunder in a few instances. Thin ice was seen on two or three mornings.

Moulton, Alabama.—An inch and a half of snow fell during the night of the 19th. This was the only snow during the month, and there was no rain except a hundredth of an inch on the 12th, and a tenth of an inch on the 25th. At the end of the month buds of rose bushes were beginning to swell, and hyacinths, tulips, jonquils, and snowdrops were beginning to appear above the ground.

Corwent, Louisiana.—"Yesterday morning snow fell to the depth of about five inches." Letter to the Smithsonian, dated January 4.

Springdale, Kentucky.—Twelve and a quarter inches of snow fell on the 19th, 20th, and 21st; there was also a very slight snow on the 9th and on the 16th.

Chilesburg, Kentucky.—Eighteen inches of snow fell during the month, twelve inches of it on the 19th, 20th, and 21st.

Kingston, Ohio.—January 20.—Snow-storm in the night, the heaviest of the season, eight inches in depth.

Urbana, Ohio.—January 31.—The ground has been covered with snow since the 24th of December, and most of the time there was good sleighing. The mean temperature of January was eight and a half degrees below the average of the month for the previous fifteen years; the means of January, 1856 and 1857, were both three and a half degrees lower still.

Toledo, Ohio.—January 19.—Severe snow-storm from the northeast; 25, snow storm with hail and sleet; 26, high winds with severe squalls of snow; 31, commenced thawing early in the afternoon, and by nine o'clock the sleighing on the principal streets was nearly all gone. There was nearly continuous sleighing for forty-five days, and very fine for twelve days.

Kelley's Island, Ohio.—January 20.—Began to snow about 12.30 p. m., wind

east, quite strong; the wind increased and blew a gale till late in the night, snow continued falling till 10 a. m. of the 21st. It drifted badly, in some places along the fences to the depth of three or four feet, but in the open fields and in the forest the mean of some twenty measurements showed six inches, quite compact; it yielded on melting sixty-two-hundredths of an inch of water.

Westerville, Ohio.—At 7 a. m. on the 30th of January the temperature was 17° below zero, the lowest recorded by the observer during his residence here of over five years. The next morning at the same hour the thermometer marked 33 above zero, showing a rise of fifty degrees in twenty-four hours.

Cleveland, Ohio.—The mean temperature of the month is lower than any January since 1857. More snow fell this month than in any January in twelve years.

Steubenville, Ohio.—January 31.—The Ohio river closed about the 20th, since which time it has frozen over so firmly as to permit the crossing of teams and sleighs.

Marion, Ohio.—On the 31st a little rain fell, and during the day and night the snow disappeared largely, leaving the ground bare in many places.

Grand Rapids, Michigan.—Total amount of snow during the month 25.4 inches, twelve inches of which fell on the 25th. Only two-tenths of an inch fell during the storm of the 20th.

Merom, Indiana.—The snow-storm beginning on the 19th and ending on the 21st was very severe, and fully twenty inches of snow fell. No such storm has been known here since the winter of 1831–'32. The only snow after this sufficient to measure was half an inch on the 28th.

Vevay, Indiana.—A snow-storm of unusual severity swept over this part of the country from 7 p. m. of the 19th to 11 a. m. on the 21st, with a strong wind from the northeast, which changed to southwest about nine hours before the snow ceased. The snow measured in a sheltered place fourteen inches, and drifted to a depth of four feet.

Muncie, Indiana.—Temperature on the 30th at 7 a. m. eleven degrees below zero; next morning at same hour thirty-eight degrees above, a rise of forty-nine degrees in twenty-four hours.

Rensselaer, Indiana.—January 20.—Violent snow-storm, with high wind from northeast throughout the entire day. It is difficult to obtain correct measurement of the depth of the snow, on account of the drifting, but it may be safely put down at twelve inches.

Sandwich, Illinois.—Very little snow fell in the storm of the 19th. The great snow-storm of the season began at 9.30 p. m. of the 24th, with wind from the east, sleeting first and then snowing; depth eight inches.

Mount Sterling, Illinois.—January 24.—About 7 p. m. it commenced sleeting, and must have continued most of the night. Next morning every limb and twig bore a casing of ice from a quarter to half an inch in thickness, which remained for three successive days.

Loami, Illinois.—January 19.—A snow-storm set in from the northeast at 11 a. m. and continued for twenty-two hours. The wind blew a fresh breeze from that point all that time, but not sufficiently strong to obstruct railroads or common roads with drift. Fifteen inches of snow fell during the storm, a greater depth than has fallen at one time for twelve years.

Tiskilwa, Illinois.—January 31.—Thawed to-day, so as to soften and waste the snow some in the roads, but not much elsewhere.

Riley, Illinois.—From the 7th of December to the last day of January there was but one or two days upon which it thawed at all. Temperature of the month 7.39 degrees below the mean of twelve years. There has been less drift than usual; the trains on the railroad have been on time with one exception of three hours.

St. Louis, Missouri.—Ten inches of snow fell during the storm of the 19th to 21st.

Harrisonville, Missouri.—Two and a quarter inches of snow in the night of the 19th; none on the 20th or 21st.

Union, Missouri.—Eleven inches of snow fell on the 19th and 20th; only twice in twenty years has there been so deep a snow here. 30th and 31st, rapid thaw.

Baraboo, Wisconsin.—No snow after the 14th till the 25th, when there was a fall of twelve and a half inches. The observer remarks that the month was noted for "a lack of the high winds and snow squalls usual to this latitude."

Plymouth, Wisconsin.—Some flakes of snow on the 19th and 20th; seventeen inches on the 25th.

St. Paul, Minnesota.—The principal fall of snow was on the 13th and 14th; eight inches and four-tenths. Four-tenths of an inch fell on 18th and 19th, and two inches and nine-tenths on the 24th and 25th.

Minneapolis, Minnesota.—January 31.—Ice in the Mississippi river twenty-seven inches thick.

Monticello, Iowa.—Twenty inches of snow fell during January; two inches on the 9th, two on the 12th, two and a half on the 14th, and thirteen and a half on the 24th and 25th.

Waterloo, Iowa.—The only snow of importance during January was from 4 p. m. of the 24th to 4 p. m. the next day; depth of snow about twelve inches.

Iowa City, Iowa.—A little over twelve inches of snow fell from 7 p. m. on the 24th to the same hour next day. Less than half an inch fell during all the rest of the month.

Leavenworth, Kansas.—Nine and twenty-seven-hundredths inches of snow fell during the month; of this 3.65 inches was on the 13th, 2.75 inches on the 24th, and 2.75 inches on the 29th.

Atchison, Kansas.—Depth of snow in January, 22.6 inches, of which 12.3 inches fell on the 24th and 25th.

Council Grove, Kansas.—Only seven inches of snow during the month; two inches on the 4th, and five inches on the 24th. A few flakes on the 13th and 20th.

ERRATUM.—In January number, foot of page 47, for "fifty-four and a half inches" read "six and a half inches."